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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,046	09/08/2000	Takayuki Nakajima	450100-02700	2525

20999 7590 02/12/2004

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EXAMINER

HANNETT, JAMES M

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/658,046

Applicant(s)

NAKAJIMA ET AL.

Examiner

James M Hannett

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Image pickup apparatus which can eliminate a false color in the spatial frequency band during chromatic signal processing.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1: Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,018,363

Horii.

2: As for Claim 1, Horii teaches on Column 6, Lines 5-10 the use of an image pickup apparatus comprising: An image pickup element having a color coded filter (10); Spatial phase synchronization means for synchronizing horizontal and vertical spatial phases based on output from each line in the image pickup element; Column 4, Lines 24-37. Horii teaches that the synchronized pixel values are color converted. This process is viewed as a synthesis process. Therefore, Horri teaches synthesis means for generating a synthesis signal based on a signal whose horizontal and vertical spatial phases are synchronized in the spatial phase synchronization means. Horri teaches on Column 9, Lines 21-25 that the color difference signals

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generated from the color conversion circuitry is modulated into a chromatic signal. This is viewed as a chromaticness process.

3: In regards to Claim 2, Horri depicts in Figure 2 and teaches on Column 12, Lines 6-13 that the color coded filter is a complimentary mosaic coding filter.

4: As for Claim 3, Horri depicts in Figure 2 and teaches on Column 12, Lines 6-13 that the complimentary mosaic color coded filter is based on a repetition of two pixels horizontally by four lines vertically, and Wherein the filter comprises: a first line which is an alternative repetition of Cy (cyan) and Ye (yellow); a second line which is an alternate repetition of G (green) and Mg (magenta); a third line which is an alternate repetition of Cy and Ye; and a fourth line which is an alternate repetition of Mg and G.

5: In regards to Claim 4, Horri teaches on Column 12, Lines 14-30 that the synthesis means generates new signals S1r, S2r, S1b, and S2b by performing the following operations:

$$S1r = Cy + G, S2r = Ye + Mg$$

$$S1b = Cy + Mg, S2b = Ye + G$$

Based on Cy (cyan), Ye (yellow), G (green), and Mg (magenta) of each pixel data in a signal whose horizontal and vertical spatial phases are synchronized in the spatial phase synchronization means.

6: As for Claim 5, Horri teaches on Column 12, Lines 31-37 that the image pickup element (106) is read on a frame basis by independently scanning odd-numbered and even-numbered lines (interlaced).

7: In regards to Claim 6, Claim 6 is rejected for reasons discussed related to Claim 1, since Claim 1 is substantially equivalent to 6.

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8: As for Claim 7, Claim 7 is rejected for reasons discussed related to Claim 2, since Claim 2 is substantially equivalent to 7.

9: In regards to Claim 8, Claim 8 is rejected for reasons discussed related to Claim 3, since Claim 3 is substantially equivalent to 8.

10: As for Claim 9, Claim 9 is rejected for reasons discussed related to Claim 4, since Claim 4 is substantially equivalent to 9.

11: In regards to Claim 10, Claim 10 is rejected for reasons discussed related to Claim 5, since Claim 5 is substantially equivalent to 10.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 6,124,888 Terada et al see Figure 28A; USPN 5,748,307 Nakamura et al teaches synthesis means calculating color difference signals corresponding to $S1r = Cy + G$, $S2r = Ye + Mg$, $S1b = Cy + Mg$, and $S2b = Ye + G$; USPN 6,163,342 Suzuki; USPN 6,133,953 Okada teaches the use of a camera with (cyan, green, magenta, and yellow) color filters. Furthermore, Okada teaches the use of a synthesis circuit that performs a color difference calculation as depicted in Figure 6.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M Hannett whose telephone number is 703-305-7880. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

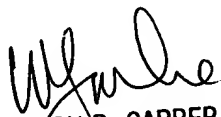
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James M. Hannett
Examiner
Art Unit 2612

JMH
February 2, 2004


WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600